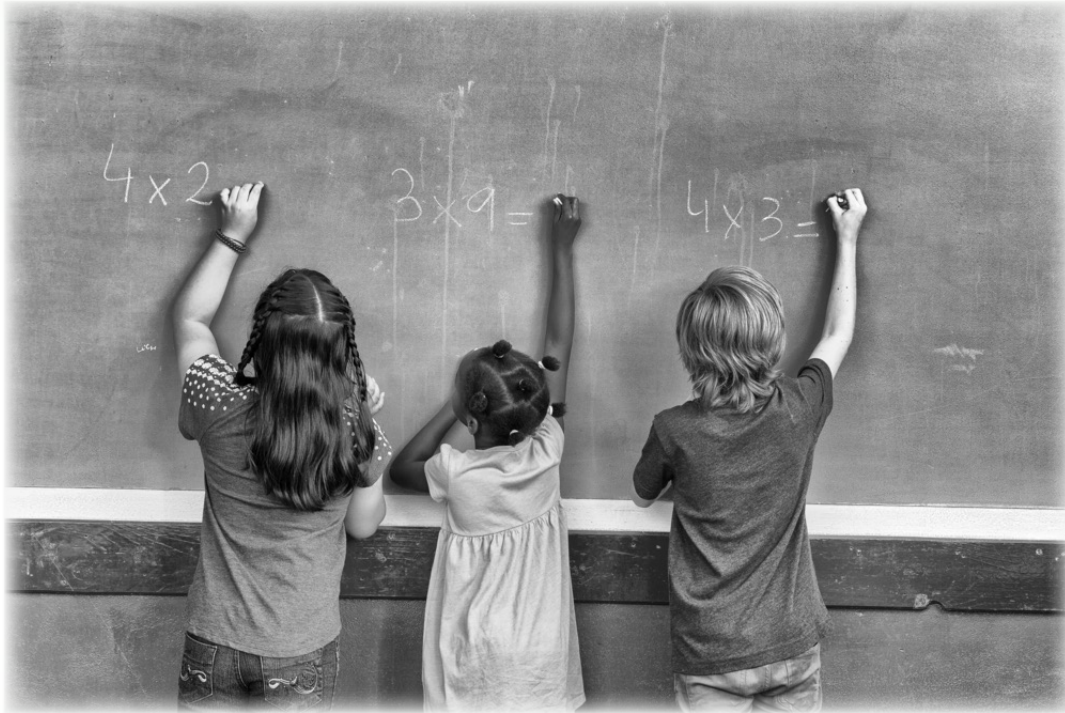


THE ECONOMIC BURDEN OF RACISM FROM THE U.S. EDUCATION SYSTEM



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June 2021

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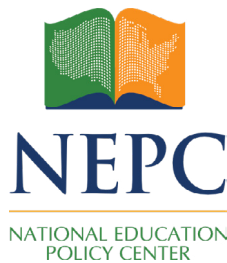


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I. Executive Summary

Even as the U.S. education system becomes more ethnically and racially diverse, many racial disparities persist with regard to school segregation, educational resources, and ultimately educational outcomes. These disparities harm students individually and have significant societal impacts as well, including economic consequences. Educational resources are misallocated in ways that may reflect racial discrimination. Black and Hispanic students often leave school with substantially lower levels of human capital and, as a result, have lower lifetime earnings on average. Together, these misallocations and losses in human capital are what this brief calls the “economic burden of racism.”

This economic burden has not been adequately explored. Schools and districts likely cannot answer the question: What level of resources—not just direct money outlays but also time and effort that must be ultimately be paid for in some way—is wasted because of racial discrimination? At present, there is no clear and precise answer, and even sound estimates are lacking. Yet to the extent that policymakers better understand the sources, extent, and nature of this economic burden, they will be better equipped to develop policies to effectively address racism in K-12 education.

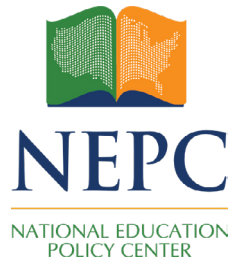
This racism within K-12 education is best understood as a carryover or symptom of societal racism. By focusing on schools, this brief should not distract from that reality. Just as importantly, focusing on just the economic price tag of racism should not distract from or minimize the human cost of racism—in terms of lost lives and other physical and psychological brutality, as well as economic maldistributions (inequities) that may not impact the bottom-line numbers. All of these harms are part of the same systemic whole wrought by racism. And seriously addressing racism in schools and in the societal housing of those schools will lead to across-the-board benefits, however measured.

In estimating the main economic burdens of racial disparities, this brief attempts to include

all the resources that are affected by racism, measured in dollars. However, not all these resources have been identified and calculated, so the full burden is not yet known. Nevertheless, even with this incomplete approach, the economic burdens are substantial and multifaceted. A conservative estimate is that, for each cohort of Black and Hispanic students age 18, the burden from lower human/social capital is between \$42 and \$92 billion in lost economic outcomes over the lifetime. For schools and districts, costs of racial disparities are incurred each year from K through 12th grade. Approximately and conservatively, these costs amount to \$0.4 billion on school discipline, \$3.8 billion on special education, \$3.2 billion on grade repetition, and \$0.1 billion on direct spending to combat racism

These conservative estimates point to the need for more complete and precise data. The shortcomings in information about the economic burden of racism leads to the following five recommendations regarding research that should be funded by policymakers. The research should:

- Provide a comprehensive description of disparities within the education system and an estimate of full dollar losses from racism in U.S. K-12 education.
- Investigate how economically important these racial disparities are and so how much society “pays” when racial discrimination is pervasive.
- Establish how these racial disparities result from racism within the educational system rather than confounding factors. Recent research on school discipline is a promising initial step, but much more analysis needs to be performed across all disparities.
- Align evidence on the effectiveness of policies and programs to combat racism with estimates of the economic burden of racism, to determine how and under what conditions anti-racism policies are affordable. For example, socio-emotional programs that reduce interracial tensions within the classroom may “pay for themselves” if they reduce the need for school police forces.
- Examine how racism in other domains of society affects the education system. When students face discriminatory housing, job markets, health care and criminal justice systems, their ability to learn is impaired and the educational resources available to them are diminished. Currently, because the full extent to which these factors adversely impact on educational productivity is unknown, the extent to which schools might reasonably be expected to eliminate racial disparities is also unknown.



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II. Introduction

The U.S. education system is highly diverse in terms of students' racial/ethnic background. Within the last decade, the K-12 public school system has become "majority–minority." The new majority is 15% Black, 27% Hispanic, 5% Asian, 4% more than one race, and under 1% Pacific Islander and American Indian/Alaska Native; the remaining 48% of public school students are White. Despite the demographic shifts, the U.S. education system still exhibits significant racial segregation in enrollment and strong racial disparities in resources, instruction, and outcomes.¹

Racial discrimination is defined as "differential treatment on the basis of race that may or may not result from prejudice or animus and may or may not be intentional in nature."² Typically, economists analyze individual-level discrimination (such as an employer refusing to hire minority applicants or paying minority workers lower wages, or a landlord refusing to rent to minority households). Indeed, most economic research looks at these types of individual discrimination. Another type is institutional discrimination, which derives from organizations or laws (such as inferior health care access for minority families). Economists have studied this type less intensively. As such, little attention has been paid to the economic burden of discrimination within the education system.³ Here, I use the term *racism* to reflect systemic or general racial discrimination (either individual or institutional).

In this policy brief, I use an economic perspective to document the burden of racism in the U.S. K-12 education system. First, I review the economic approach used to identify racial disparities in education to infer racism. Due to the fact that this literature is vast, I focus on disparities that can clearly be linked to allocations of inputs, by which I mean resources that the education system pays for. For example, disciplinary action requires teacher time inputs (and so teacher salaries). Services for identification and placement of students in special education require staff inputs to meet the students' needs. And, if students repeat grades, teacher inputs must be hired. Next, I calculate the economic burden by adding up all

the monetary consequences caused by these racial disparities. As a final step, I determine what fraction of this economic burden is caused by racism within the education system. Not all of the economic burden may reflect racism; some of it may be caused by external factors that are correlated with race (such as household income).⁴ The fraction caused by racism within the education system—and the resulting economic burden—is the focus of this brief. However, because current economic analysis is far from comprehensive, I draw attention to areas where economic evidence is lacking. I then discuss how these economic consequences relate to the economic burden of racism. I conclude with recommendations for further investigation to fully understand both the economic burden of racism in U.S. education and how racism in other domains of society affects racial disparities within schools.⁵

III. Review of the Literature: Identifying Racial Discrimination Within the Education System

Significant racial disparities exist across the education system. In part, these disparities arise because the school system is heavily segregated: more than half (58% and 60%, respectively) of Black and Hispanic students are in schools where their enrollment is more than 75%. Yet the racial composition of the education profession does not match that of the student body: less than one-quarter of teachers (and principals) are themselves non-White.⁶ Finally, school resources vary with race: Black and Hispanic students are much more likely to be in school districts with low funding or “funding gaps” relative to need.⁷

For economic analysis, I focus on the consequences of these racial disparities in monetary terms. Evidence on the Black/White test score gap is vast. For example, Black and Hispanic students score between 0.5 and 1 standard deviation below White students on reading and math NAEP tests across grades 4, 8 and 12. By the end of high school, 79% and 81% of Black and Hispanic students will have graduated; the rate for White students is 89%. These disparities carry over into disparities in college attendance and completion.⁸ The end result is much lower human capital for minority students and much lower incomes in adulthood. In addition, racial disparities in education may cause racial disparities in social capital; this, too, has long-term monetary consequences.⁹

There are also economic consequences of racial discrimination when students are in school (or of school age). These consequences arise because inputs—especially teacher time and student effort—are distorted because of racial discrimination. The most clearly established economic consequences are monetary expenditures on school discipline (for suspensions/expulsions).¹⁰ Black students are disciplined at rates more than three times those of White students; other non-White groups also have higher school disciplinary rates. Some of the resources allocated to these disciplinary practices are therefore a consequence of racial discrimination.

Other resource allocation patterns within schools reflect racial disparities and discrimination. These include how students are placed in school (e.g. into special education, at-risk programs, gifted and talented programs, and AP classes); whether students are retained or promoted to the next grade level; how students progress through school grades; and how students interact with their teachers and their peers. It is not only students who may expe-

rience racism, but also teachers and school staff. Notably, government agencies, districts, and schools already allocate resources to combating racism. If there was no racial discrimination, then these resources would not be needed. Increasingly, research on “new racism” is identifying more of these distortions.¹¹

Critically, the education system is affected by racial disparities in other domains of society. Racial discrimination is well-documented in housing, health care, the labor market, and the criminal justice system.¹² This discrimination will be reflected in the education system both directly in its effects on school quality and indirectly via its effect on students’ opportunity to learn. For example, racial segregation may force Black families into neighborhoods with low quality public schools and discriminatory employment practices may reduce the incomes of Hispanic families, reducing home resources to support their children’s learning. These domains of discrimination may compound each other. For example, a Native American student in juvenile custody may be unable to enroll in school. Disentangling these external forces of racial discrimination from forces within the education system is a challenge for researchers.¹³

IV. Recent Developments

Lost Human Capital from Racial Discrimination

The loss in human capital can be estimated from lifetime profiles by race and education level. Over the life course, education is positively associated with higher earnings, as well as social impacts such as better health, lower criminality, and lower reliance on government supports. Many studies have looked at lifetime earnings; others have included the social impacts. Thus, it is possible to derive the economic consequences of racial disparities in educational outcomes such as attainment, achievement, or pro-social behaviors.¹⁴ I report estimates in aggregate across the 22 million Black/Hispanic students enrolled in public schools in 2020.¹⁵

Many studies have calculated the economic burden when students fail to graduate from high school. A conservative estimate expressed as a present value per student at age 18 in 2021 dollars is \$340,000. To equalize graduation rates across races (up to the rate for White students), an additional 8-10% of non-White students would need to graduate. In total, therefore, for each cohort, elimination of racial disparities would yield 175,000 more high school graduates each year. Therefore, the aggregate economic burden of the racial disparity in attainment is estimated at \$59.5 billion annually. This lump sum amount is conservative in that it does not include the social impacts of high school graduation, nor does it include the racial disparities in achievement for students who do graduate from high school.¹⁶

A similar method can be applied for gaps in achievement. Lifetime earnings vary by race, with a deficit of approximately \$150,000 for non-White students. Assuming only 10% is attributable to racial disparities in educational outcomes¹⁷ (rather than confounding factors, such as family background and other factors discussed below), the economic burden in the aggregate across each cohort is (conservatively) \$92 billion.¹⁸ Finally, a third version of this

approach is to look at racial disparities in socio-emotional skills and how these affect life-time earnings. Research has identified a range of socio-emotional skills and competencies that affect economic success in adulthood. However, the precise relationship between these skills and earnings is not available. A conservative estimate of the economic burden from lower levels of socio-emotional skills is \$42 billion.¹⁹

Racial Disparities When Students Are in School

The racial discrimination and racial disparities that occur when students are in school have immediate economic consequences. However, there has been almost no attention paid to these economic consequences. Therefore, my estimates are approximate and my main contribution is to catalog these disparities. This catalog serves as a foundation for future research and it informs policymakers about the amount of educational resources that are being used—either directly or indirectly—to address racism.

Racial disparities in school discipline have been extensively researched, as noted above. Unfortunately, school districts do not report how much they spend in total on discipline. Annually, schools spend approximately \$4 billion on law enforcement and security force staff.²⁰ But this is only the cost for the direct personnel involved in school discipline; there are also substantial time commitments from teachers, senior personnel, social workers, counselors, psychologists, and nurses (as well as families). Using estimates of costs for behavior disorder, a conservative estimate of the cost per incident is \$4,000.²¹ If disciplinary rates were equalized by race, there would be 100,000 fewer incidents. Thus, the burden of racial disparities in discipline is \$0.4 billion (conservatively).

Students with school disciplinary problems may also become involved in the juvenile justice system, in which there are also strong racial disparities.²² However, the causal link between racial discrimination in school discipline and juvenile justice involvement is complex and magnitudes are not precisely identified; hence the monetary consequences cannot be estimated.

Special education placement is also racially stratified but the stratification varies across race groups and disabilities. Minority students are sometimes more and sometimes less likely to be identified for special education services. From an economic perspective, both mis-identifications are important: providing special education services to students who do not need it is a waste; denying special education to students who need it is also a burden (in terms of social well-being and future academic success). If Black and Hispanic students were served at the same rates as White students, I estimate at least 150,000 students would be correctly identified. Given per-student funding of \$25,000, the racial disparity in special educational placement yields an annual burden of \$3.75 billion.²³

Grade repetition rates vary significantly by race. Each year, whereas approximately 1% of students repeat a K-12 grade, rates are three times higher for minority students. If grade repetition rates were equalized by race there would be 250,000 fewer years of repeated schooling. The economic burden of these repeated years is therefore \$3.15 billion annually.²⁴

Schools, districts, and the federal government expend resources directly to combat racial discrimination in school. For example, the annual budget of the U.S. Department of Education Office of Civil Rights is \$110 million.²⁵ Again, most educational agencies do not keep accounts of their direct spending to combat racism. Families may also spend money to combat racism (e.g., by changing schools or moving neighborhoods), and these amounts are also unknown.

Racism is likely to reduce overall educational productivity: Since racism undermines learning, more resources are needed to generate educational outcomes. Educators must spend extra time and resources to establish a school climate that encourages learning. However, students may experience—to borrow terms from health literature—“insults” and “shocks” that make it harder to engage in learning. (Insults are relatively temporary and minor, e.g., verbal assault. Shocks have more lasting and relatively strong effects, e.g., physical assault.) Many insults and a non-trivial number of shocks likely go undetected, but all such events make it harder for teachers to teach and students to learn. It is not just minority students whose productivity is impaired. When students are racially segregated, there is evidence that critical thinking and social skills are undermined for all students.²⁶ The teaching profession is also affected: Recruitment costs may increase, and pay may need to be increased to retain teachers who themselves experience racism. To my knowledge, there is no economic calculation of these losses in productivity. Given that they affect all students, however, the losses may potentially be very large.

V. Discussion and Analysis: Connecting Racial Disparities With Racial Discrimination

Racial disparities may not be the same as racial discrimination. Some fraction of some of these racial gaps in outcomes may be attributable to other correlated factors (some of which themselves may be caused by racial discrimination).²⁷ Students from high-income families score higher on achievement tests than students from low-income families. If minority students are disproportionately from low-income families, then the observed racial disparity in outcomes may be partially an income disparity (some of which may itself be caused by labor market discrimination). Thus, adjustments for these correlated factors (income, health status, among other things) will affect the size of the gap that may be attributable to racism.

Empirically, it is difficult to precisely estimate the size of the adjustment for each gap. For achievement, some economists have estimated that the gap is reduced considerably, perhaps almost to zero.²⁸ In effect, these authors are arguing that the education system is (close to) “race-neutral” with respect to achievement: It does not compensate for other factors but it does not exacerbate them either. For some outcomes, the correspondence between racial disparities and racism is larger—confounding factors do not fully explain differences by race. For school discipline, almost half of the disparity is attributed to differences in treatment and support of children (and not to differences in student behavior).²⁹ For juvenile justice, 25-50% of the racial disparity in treatment cannot be explained by confounding factors.³⁰ For these two measures, therefore, a substantial fraction may be attributable to racism.

Fundamentally, there are two difficulties in determining to what extent racial disparities

are caused by racial discrimination. First, it is not clear what factors should be adjusted for or whether all factors have been accurately identified. Some factors are endogenous because of racism in other social domains. For example, minority students may interpret labor market discrimination as a disincentive to accumulating education, or housing segregation may make it harder for students to attend high-quality schools.³¹ Evidence on racial discrimination in housing, in the labor market, and in the criminal justice system is vast. So, if minority parents earn less because of racial discrimination, their children are more likely to have lower achievement, on average.³² Discrimination in these social domains is likely to be a significant cause of racial disparities in educational outcomes. Logically, the larger the discrimination in these domains, the smaller the net discrimination attributable to the education system *per se*. In general, these combined forces make it difficult to separate out racial discrimination that stems from decisions about work or about housing from racial discrimination with regard to education.

Second, public school resources vary by race. These resource differences reflect the complex combination of residential segregation, funding formulae based on local tax bases, and school district zoning. Each of these factors may be affected by racial discrimination. Furthermore, some school funding is intended to offset inequalities in socioeconomic status, which may be correlated with race. Disentangling racial disparities in funding is complex. One recent study calculates that, in the aggregate, non-White school districts receive \$23 billion³³ less in funding than White school districts (despite serving the same numbers of students).³⁴ Racial disparities in resources may therefore be an important factor in explaining racial disparities in outcomes.

VI. Recommendations

Even as the U.S. education system becomes more ethnically/racially diverse, many racial disparities in education services, processes, and outcomes persist. These disparities are partially caused by factors and environments outside of school. Thus, racial disparities precede school entry and continue as children progress through their K-12 education. Schools may attempt to offset these external factors, but they do not adequately do so, and in some areas, they may exacerbate racial disparities (e.g., through unjust disciplinary practices).

In addition to being inequitable, these disparities impose a substantial economic burden. Yet this burden is rarely investigated. To my knowledge, schools and districts cannot answer the question: How much resource—not just direct money outlays but also time and effort that must be ultimately be paid for in some way—is wasted because of racial discrimination? At present, we do not know the full dollar burden from racism in U.S. K-12 education. To the extent that policymakers better understand the sources, extent, and nature of these losses, they will be better equipped to develop policies to effectively address them.

Here, I offer an approximate and conservative estimate. For each cohort of minority students age 18, the social burden from lower human/social capital is between \$42-\$92 billion in lost economic outcomes over the lifetime. For schools and districts, the costs of racial disparities are incurred each year from K through 12th grade. Approximately and conservatively, I estimate these costs to be: \$0.4 billion on school discipline; \$3.8 billion on special

education; \$3.2 billion grade repetition; and \$0.1 billion on direct spending to combat racism. Importantly, the cost of low educational productivity is unknown, even as I suspect this productivity loss is the most economically significant.

In this brief, I have identified the main economic burdens of racial disparities in education and provided some approximate estimates of the social costs of these disparities. Even with this incomplete approach, it is evident that the economic burdens are substantial and multi-faceted. To address racial inequality in schools I recommend that policymakers fund research that should:

- Provide a comprehensive description of disparities within the education system and an estimate of full dollar losses from racism in U.S. K-12 education.
- Investigate how economically important these racial disparities are and so how much society “pays” when racial discrimination is pervasive.
- Establish how these racial disparities result from racism within the educational system rather than confounding factors. Recent research on school discipline is a promising initial step, but much more analysis needs to be performed across all disparities.
- Align evidence on the effectiveness of policies and programs to combat racism with estimates of the economic burden of racism, to determine how and under what conditions anti-racism policies are affordable. For example, socio-emotional programs that reduce interracial tensions within the classroom may “pay for themselves” if they reduce the need for school police forces.
- Examine how racism in other domains of society affects the education system. When students face discriminatory housing, job markets, health care and criminal justice systems, their ability to learn is impaired and the educational resources available to them are diminished. Currently, because the full extent to which these factors adversely impact on educational productivity is unknown, the extent to which schools might reasonably be expected to eliminate racial disparities is also unknown.

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- 17 10% is a conservative assumption because we do not have clear evidence on what the precise percentage is.
- 18 Lifetime earnings Black-White earnings gaps (for males) are from Cheng, S., Tamborini, C., Kim, C. & Sakamoto, A. (2019). Educational variations in cohort trends in the Black-White earnings gap amount men: Evidence from administrative earnings data. *Demography*, *56*, 2253-2277.
- 19 In a review of studies, lower self-esteem is consistently associated with lower earnings. See Jones, D.E, Karoly, L.A., Crowley, M., & Greenberg, M.T. (2015). Considering valuation of noncognitive skills in benefit-cost analysis of programs for children. *Journal of Benefit Cost Analysis*, *6*(3), 471-507. We assume that minority students report socio-emotional skills 0.5 standard deviations below White students.
- 20 There are over 50,000 law enforcement and security force staff in U.S. schools. Data from Diliberti, M., Jackson, M., & Kemp, J. (2017). *Crime, violence, discipline, and safety in U.S. Public Schools: Findings from the School Survey on Crime and Safety: 2015-16*. (NCES 2017-122). U.S. Department of Education, National Center for Education Statistics. Washington, DC. Retrieved May 2, 2021, from <http://nces.ed.gov/pubsearch>
- 21 Jones, D. Foster, E.M., & the Conduct Problems Prevention Research Group (2009). Service use patterns for adolescents with ADHD and comorbid conduct disorder. *Journal of Behavioral Health Services and Research*, *36*(4), 436-49.
- 22 Raphael, S., & Rozo, S.V. (2019). Racial disparities in the acquisition of juvenile arrest records. *Journal of Labor Economics*, *37*(1), 125-159.
- 23 Calculations based on placement rates of 12% and error rates of 10% from Elder, T.E., Figlio, D.N., Imberman, S.A., & Persico, C.L. (2021). School segregation and racial gaps in special education identification. *Journal of Labor Economics*, *39*(1), S151-S197.
- 24 Grade repetition data retrieved February 20, 2021, from <https://www.childhealthdata.org/browse/survey/results?q=4745&r=1>
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- 25 The US DOE OCR deals with all types of discrimination but racial discrimination cases are significant: Currently, the OCR has almost 1,000 pending cases in K-12 schools. Data retrieved February 14, 2021, from <https://www2.ed.gov/about/offices/list/ocr/index.html>
- 26 Increasingly, researchers are identifying the (self-inflicted) economic burden of racism to White communities. For example, “White-flight” to the suburbs causes property prices in those suburbs to rise; and, “White-flight”

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- 27 See Darity, W. (1998). Intergroup disparity: Economic theory and social science evidence. *Southern Economic Journal*, 64(4), 805-826.
- 28 For an estimate above zero, see Duncan, G., & Magnuson, K. (2005). Can family socioeconomic resources account for racial and ethnic test score gaps? *Future of Children*, 15(1), 35-54.

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- 29 Owens, J., & McLanahan, S.S. (2020). Unpacking the drivers of racial disparities in school suspension and expulsion. *Social Forces*, 98(4), 1548-1577.
- 30 Raphael, S., & Rozo, S.V. (2019). Racial disparities in the acquisition of juvenile arrest records. *Journal of Labor Economics*, 37, 125-159.
- 31 In fact, studies have found that minority students accumulate more education in order to offset labor market discrimination. See McGee, E.O., & Martin, D.B. (2011). "You would not believe what I have to go through to prove my intellectual value!" Stereotype management among academically successful Black mathematics and engineering students. *American Educational Research Journal*, 48(6), 1347-1389.
- 32 Hamilton, D., & Darity, Jr., W.A. (2017). The political economy of education, financial literacy, and the racial wealth gap. *Federal Reserve Bank of St. Louis Review*, 99(1), 59-76.
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